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PLANNING AND IMPLEMENTING TOTAL
QUALITY MANAGEMENT IN AN AIR FORCE
SERVICE ORGANIZATION: A CASE STUDY

THESIS

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AFIT/GCA/LSR/89S-6

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IN AN AIR FORCE SERVICE ORGANIZATION:
A CASE STUDY

THESIS

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Abstract

The purpose of this study was to describe and assess the design of Air Force Acquisition Logistics Center's (AFALC) strategic plan for implementing Total Quality Management (TQM). Documentation of such implementation methods can provide useful crossfeed to other service organizations attempting similar efforts. The following research questions were addressed to present the case in a useful context for interpretation: (1) What is TQM and how will it be implemented in AFALC; (2) How can the quality of service organizations be improved and what techniques may be useful for this purpose; (3) How does the environment at AFALC differ from most Air Force organizations implementing TQM and what obstacles must it overcome; (4) How important is strategic planning to the success of implementing programs and what key elements are critical to effective strategic planning; and (5) How can this case study benefit other organizations implementing TQM or another quality program.

The study found that TQM is a strategy for achieving continuous improvement in all organizations of the Department of Defense. AFALC will implement TQM in accordance with Air Force Logistics Command's (AFLC) quality agenda, through process management techniques. This method has been effective for improvement of services, which is

AFALC's intangible "product." The uniqueness of the organization, in terms of structure and mission, causes several obstacles to implementing quality. Although the strategic planning efforts observed are critical to sustaining quality, commitment to follow-through was deemed the most important element. AFALC must continue to apply, revise and improve their plan for total quality. The primary benefit of this study to other organizations is the flexible "Roadmap to TQM." Although no one best way exists for achieving quality, the fundamentals of this approach have proven successful for private industry. These fundamentals include management commitment and focus on quality; process ownership, measurement, and improvement; and organization follow-through, rewards, and evaluations.

PLANNING AND IMPLEMENTING TOTAL QUALITY MANAGEMENT

IN AN AIR FORCE SERVICE ORGANIZATION:

A CASE STUDY

I. Introduction

General Issue

The Department of Defense adopted Total Quality Management (TQM) as a "strategy for continuously improving performance at every level and in all areas of responsibility" in August 1988 (7:1). Accordingly, the services, agencies, and OSD components were tasked with developing and submitting plans for the implementation of TQM in their organizations to meet overall DOD goals and objectives (Appendix A) (7:3-11). The dynamics of the defense environment, especially funding constraints and various foreign policies, demand attention to strategic planning activities that will ensure this desired level of quality.

Specific Problem

Quality is a concern for all facets of business and government whether or not they produce a tangible product. However, quality planning and assurance in service organizations pose unique problems from that of a manufacturing firm. Several characteristics of service organizations distinguish them from most typical businesses

and render traditional quality control methods practically useless in a service-oriented environment (8:9-10). Common threads among the literature indicate these differences lie in the following areas (22:2-3):

1. Service quality is more difficult for the consumer to evaluate than goods quality.
2. Customers' service quality perceptions result from a comparison of their expectations with actual service performance.
3. Quality evaluations are not made solely on the outcome of a service; they also involve evaluations of the process of service delivery.

These and other reasons, to be explored later, drive the need for service industries to design quality assurance programs specifically for their situation. Thus, this research will describe and assess the implications of the design of Air Force Acquisition Logistics Center's (AFALC) strategic plan for implementing TQM in light of the obstacles they face as a unique service organization.

Research Questions

The following research questions must be answered to frame this case in a useful context for interpretation:

1. What is TQM and how will it be implemented in AFALC?
2. How can the quality of service organizations be improved and what techniques may be useful for this purpose?
3. How does the environment at AFALC differ from most Air Force organizations implementing TQM and what obstacles must it overcome?

4. How important is strategic planning to the success of implementing programs and what key elements are critical to effective strategic planning?
5. How can this case-study benefit other organizations implementing TQM or another quality program?

Justification

The end result of quality improvement is a reduction in total cost (18:28), and since the enactment of the Gramm-Rudman-Hollings Balanced Budget Act of 1986, cost reductions have become a new way of life in the Department of Defense (DOD). If successful quality programs are considered the means to this end, documentation regarding their structure, implementation and lessons learned is vital to those attempting the same in their organizations. Additionally, a short-range goal of the TQM master plan supports researching the varying implementation methods throughout the DOD. This goal is aimed at standardizing and disseminating known and tried practices, techniques and tools (7:9).

Scope

This case concerns a single service organization, AFALC, as the unit of analysis. AFALC is currently building a plan to implement TQM into its organization. The uniqueness of their mission, as described in AFLCR 23-17 (Appendix B), justifies a single-case design to provide useful input to theory-building in this area. Also, since the strategic

planning process is vital to any implementation effort, this observation will focus on executive-level management actions with respect to TQM planning and implementation.

The AFIT consultants for AFALC's quality planning efforts developed a "roadmap" for the achievement of TQM consisting of three phases: (1) Assessment and Planning, (2) Process Management and Breakthrough, and (3) Institutionalization (Jennings). Since this organization is seeking a new approach that will refocus their quality program efforts, this case will address the Assessment and Planning phase of achieving TQM. This phase involves three major milestones: (1) a Readiness Review to clarify the scope of the TQM effort to top management and identify key areas for change; (2) Executive Education to introduce TQM philosophy and tools to top managers and to initiate improvement efforts in selected management processes; and (3) Strategic Planning to develop a comprehensive plan for integrating TQM into every aspect of the organization (16:1). The strategic planning milestone will carry the heaviest weight in the research findings because a good plan is essential to gaining a "solid foothold" in the organization for continuous process improvement (7:6).

Limitations

Due to the descriptive nature of this study, and the uniqueness of AFALC's mission, the findings in this case will have limited generalizability. Additionally, time did

not allow an in-depth analysis of each individual operation of this diverse organization; therefore, conclusions have been drawn based on several snapshots of the "big picture." A majority of the data was collected through observation at an off-site AFALC Quality Planning Session conducted on 1 and 2 March 1989. Finally, the required anonymity of the interviewees precludes any specific follow-up for future case studies in this area.

Background

This section will present a setting for the case and clarify some terminology necessary to provide a common point of departure. Three major subsections will be used: first, to define TQM, its underlying philosophy, and its application to AFALC; second, to define service quality, some obstacles to its achievement, and useful tactics for overcoming common barriers; and third, to describe the organizational structure of AFALC.

TQM. In the Department of Defense, TQM has been defined as:

"... a strategy for continuously improving performance at every level and in all areas of responsibility" (7:1).

"... a focused management philosophy for providing the leadership, training, and motivation to continuously improve an organization's management and operations": (6:13).

The combined wisdom from "quality gurus" such as Dr. W. E. Deming, Dr. J. H. Juran, and Dr. P. B. Crosby provided the basis for TQM concepts (10:10).

Philosophy. Each expert emphasizes the need for management commitment (20:22). For example, Deming prescribes the following "14 points for management" to serve as the basis for "transformation" of American industry (5:23-24). These points are helpful in understanding the direction of TQM implementation in the Department of Defense (condensed version):

1. **Create constancy of purpose toward improvement of product and service, with the aim to become competitive and to stay in business, and to provide jobs.**
2. **Adopt the new philosophy.** We are in a new economic age. Western management must awaken to the challenge, must learn their responsibilities, and take on leadership for change.
3. **Cease dependence on inspection to achieve quality.** Eliminate the need for inspection on a mass basis by building quality into the product in the first place.
4. **End the practice of awarding business on the basis of price tag.** Instead, minimize total cost. Move toward a single supplier for any one item, on a long-term relationship of loyalty and trust.
5. **Improve constantly and forever the system of production and service, to improve quality and productivity, and thus constantly decrease costs.**
6. **Institute training on the job.**
7. **Institute leadership (see point 12).** The aim of supervision should be to help people and machines and gadgets to do a better job. Supervision of management is in need of overhaul, as well as supervision of production workers.

- 7
8. **Drive out fear**, so that everyone may work effectively for the company.
 9. **Break down barriers between departments.** People in research design, sales, and production must work as a team, to foresee problems of production and in use that may be encountered with the product or service.
 10. **Eliminate slogans, exhortations and targets for the work force** asking for zero defects and new levels of productivity. Such exhortations only create adversarial relationships, as the bulk of the causes of low quality and low productivity belong to the system and thus lie beyond the power of the work force.
 11. (a) **Eliminate work standards (quotas)** on the factory floor. Substitute leadership.
(b) **Eliminate management by objective.** Eliminate management by numbers, numerical goals. Substitute leadership.
 12. (a) **Remove barriers** that rob the hourly worker of his right to pride of workmanship. The responsibility of supervisors must be change from sheer numbers to quality.
(b) Remove barriers that rob people in management and in engineering of their right to pride of workmanship. This means, inter alia, **abolishment of the annual or merit rating** and of management by objective.
 13. Institute a vigorous program of **education and self improvement.**
 14. Put everybody in the company to work to accomplish the transformation. **The transformation is everybody's job (5:23-24).**

In many examples from industry, Deming relies heavily on statistical process control (SPC) techniques to gauge the success of quality programs. The use of statistical tools dictates a bottom-up implementation process (20:25).

Although he proposes that the principles and methods for

quality improvement are the same for service as for manufacturing, Deming agrees that the actual application differs between the two industries (5:183).

"Similarly, Juran urges all management levels to provide hands-on leadership in quality improvement by taking on their own quality projects." He believes that top management must advertise its commitment to quality before lower levels are asked to make this new commitment (20:23). In addition, Juran developed a "breakthrough sequence" that stresses a project-by-project implementation and represents his remedy for "chronic quality problems" (i.e., those long-standing adverse situations that require a change of status quo). This sequence is comprised of seven steps

(17:100-101):

1. Convince others that a breakthrough is needed - convince those responsible that a change in quality level is desirable and feasible.
2. Identify the vital few projects - determine which quality problem areas are most important.
3. Organize for breakthrough in knowledge - define the organizational mechanisms for obtaining missing knowledge.
4. Conduct the analysis - collect and analyze the facts that are required and recommend the action needed.
5. Determine the effect of proposed changes on the people involved and find ways to overcome the resistance to change.
6. Take actions to institute the changes.
7. Institute controls to hold the new level.

Juran's approach stresses the use of various problem-solving tools, in addition to SPC, and focuses on achieving quality by meeting customers' expectations. Additionally, his focus on managing improvement project-by-project implies that middle managers play the key role in quality implementation efforts (20:25).

Further, Crosby touches on both philosophies with his 14-step process that provides an "explicit, structured approach to launching the improvement process and changing the [organizational] culture." This process is also geared toward fostering a "breakthrough" in attitudes throughout the organization to build an environment for change (20:23). Each step and its purpose is shown below (4:175-259):

1. **Management commitment** ... to make it clear where management [personally] stands on quality.
2. **The Quality Improvement Team** ... To run the quality improvement program [for all functions].
3. **Quality Measurement** ... To provide a display of current and potential non-conformance problems in a manner that permits objective evaluation and corrective action.
4. **The cost of Quality** ... To define the ingredients of the cost of quality [rework, scrap, warranty service, inspection labor, etc.] and explain its use as a management tool.
5. **Quality Awareness** ... To provide a method of raising the personal concern felt by all personnel in the company toward the conformance of the product or service in the quality reputation of the company.

6. **Corrective Action** ... To provide a systematic method of resolving forever the problems that are identified through previous action steps.
7. **Zero Defects (ZD) Planning** ... To examine the various activities that must be conducted in preparation for formally launching the Zero Defects program [aimed at prevention].
8. **Supervisor Training** ... To define the type of training that supervisors need in order to actively carry out their part of the quality improvement program.
9. **ZD Day** ... To create an event that will let all employees realize, through personal experience, that there has been a change.
10. **Goal Setting** ... To turn pledges and commitments into action by encouraging individuals to establish improvement goals for themselves and their groups.
11. **Error-Cause removal** ... To give the individual employee a method of communicating to management the situations that make it difficult for the employee to meet the pledge to improve.
12. **Recognition** ... To appreciate [publicly and noisily] those who participate.
13. **Quality Councils** ... To bring together the professional quality people for planned communication on a regular basis.
14. **Do it over again** ... To emphasize that the quality improvement effort never ends.

Crosby clearly advocates a top-down approach to implementation by focusing on the need to first change the management culture. His 14-step process is aimed toward achieving this new culture and launching the improvmenet process (20:23, 25).

Although each expert takes a different path, their destination for "world-class quality" is the same. Concepts

from each may be combined to tailor individual approaches to quality programs, versus accepting a packaged deal from one or the other. Common lessons to be derived from their strategies are (1) it is critical that the quality improvement process fit the organization, instead of trying to make an organization fit some prescribed formula; (2) quality improvement processes must match the organization's own culture and values; and (3) people more readily accept, and are more committed to, programs they participate in developing (20:25).

The previously mentioned efforts placed a new emphasis on the improvement of processes that create products instead of the traditional approach of inspecting the final product for quality (10:10). Consistent with this focus, a "structured process improvement methodology" has become critical to the success of DOD quality programs. However, successful TQM implementation also depends on "establishing a nurturing, encouraging environment" and a "disciplined organizational goal-setting methodology" (7:1). Thus, as the Commander of Air Force Logistics Command (AFLC) noted in Program Manager magazine, several good ideas were found in consulting with quality experts in private industry; however, the Air Force "mission and infrastructure didn't fit one approach." He felt that both people and processes must be emphasized, without excluding one or the other, and recognized that the task at hand was to "build our own"

quality program. The resulting effort became known as QP4 (10:10). Since AFALC is a direct reporting unit to Headquarters AFLC, their quality efforts are expected to "mirror" that of QP4 (12). Thus, a brief overview of their program is in order.

QP4. The AFLC quality formula is a combination of four main ingredients: people + process + performance + product. PEOPLE are listed first and foremost because their total involvement is the key to progress. PROCESS refers to the ability to understand, simplify and continuously improve the way the job is done. Consequently, process management is the primary source of improvement and is the "cornerstone" of the program. PERFORMANCE highlights how well the job is done and must be measured to monitor continued quality improvement. PRODUCT represents the "ultimate deliverable" to both internal and external customers, and includes physical hardware as well as services provided. This term also captures the reality that the customer's perception of this deliverable is of key importance. Process action teams (PATs) were designated as the "fundamental implementation tool" for QP4. PATs are management directed committees, that include all functional areas, assigned to specific process segments with a given objective. The PAT leader is tasked with taking the process apart, analyzing it, dividing it into manageable "chunks," and assigning the right people to work each chunk (13:Atch 1).

To accomplish the broad objectives of TQM, many Air Force organizations have contracted the support of consultants to help implement and continue on-going quality improvement efforts. Although individual approaches may vary with regard to TQM implementation, DOD proposed a "Typical Performance Improvement Model" (Figure 1) (16:14) to define generic guidelines for the continuous improvement process. Accordingly, AFALC utilized AFIT consultants who devised an overall strategy to address the key areas of their processes. This flexible "roadmap" addresses TQM/QP4 objectives and can be tailored to the mission of AFALC (Appendix C). This tailoring should be the result of careful strategic planning. This overall plan for guiding TQM efforts in AFALC is the desired result of their quality planning session.

Service Quality. Berry, et al, who have done an on-going study of service quality since 1983, reached the conclusion that "quality of service is more than a set of activities; it is, in the final analysis, primarily an attitude" (3:35, 43). Since service quality has become a major differentiator in today's competitive market, their studies sought to better define the term, highlight common causes of service-quality problems, and suggest ways service organizations may improve quality (3:35). Their findings play an integral role in this case analysis by highlighting the difficulties in implementing service quality.

STEP 1 - ESTABLISH THE TQM MANAGEMENT AND CULTURAL ENVIRONMENT

- VISION
- LONG-TERM COMMITMENT
- PEOPLE INVOLVEMENT
- DISCIPLINED METHODOLOGY
- SUPPORT SYSTEMS
- TRAINING

Implementation of the continuous improvement process lends itself nicely to the seven-step sequence defined in the model. Each step involves a series of well defined, straightforward tasks which lead directly into the actions required in the subsequent steps. Since the improvement process is to be continuous, the procedure may be repeated as desired.

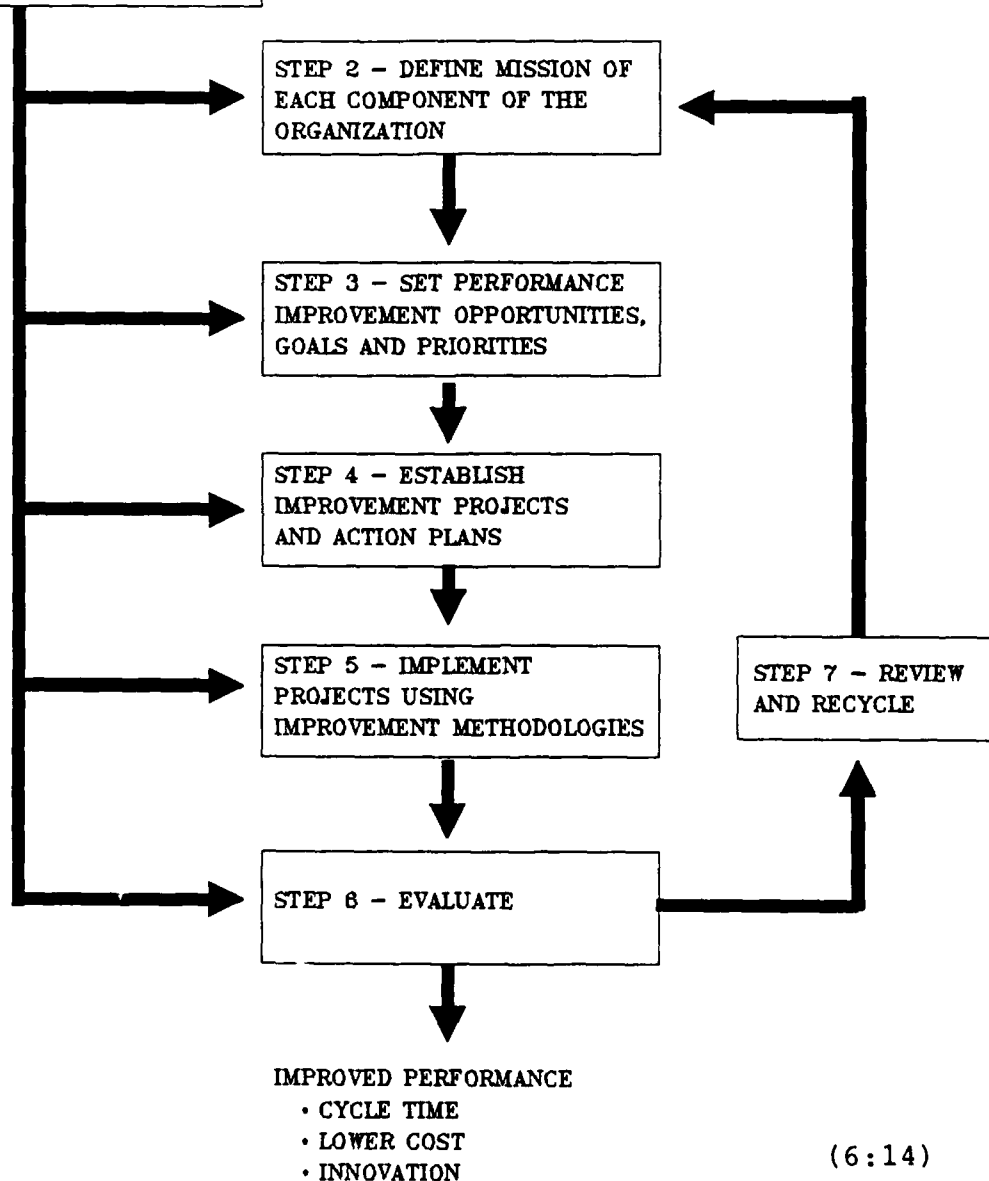


Figure 1. DOD Typical Performance Improvement Model

Definitions. Quality can simply be defined as "conformance to specifications"; however, Berry, et al, contend it should be modified to state that "quality is conformance to customer specifications" (3:35). In addition, DiPrimio asserts that quality can be further defined in three dimensions that highlight the true complexity of this concept--design quality, production quality and perceived quality (8:3). Each dimension represents an important measure of overall quality that organizations must manage. Design quality measures whether the type of service offered meets client needs, as well as the responsiveness and adaptability of the organization to those needs. Production quality measures how well services are offered in terms of accuracy, timeliness, and consistency. Perceived quality represents an indicator of how clients perceive the organization's design and production quality meet their needs (8:3). Although this final dimension is the most difficult to measure, it has the primary influence on quality in a service organization. Further, since customer evaluations and views tend to be subjective and diverse (8:10), service quality becomes a function of the varying expectations and perceptions of management and customers (22:6). Analysis by Zeithame, et al, in a 1987 Marketing Science Institute (MSI) report indicated four major "gaps" regarding discrepancies between executive perceptions of service quality and the actual

expectations held by consumers. They also identified a fifth gap which deals with the perceptions of customers based on their own expectations. The conclusions from this report provide key management insights for delivering service quality (29:5-21):

- Gap 1 - The difference between consumer expectations and management perceptions of consumer expectations;
- Gap 2 - The difference between management's perception of consumer expectations and actual service quality specifications;
- Gap 3 - The difference between service quality specifications and the service quality delivered;
- Gap 4 - The difference between service delivery and what is communicated about the service to consumers; and
- Gap 5 - The difference between expectations about service and perceptions about service delivery on the consumer's side.

The size of Gap 1 is theorized to be a function of the organization's use of marketing research; extent and quality of upward communication; and the number of management layers between customer-contact personnel and top management (29:6). The size of Gap 2 is theorized to be a function of management's commitment to service quality; the existence of formal processes for establishing service quality goals; the degree to which tasks or problem-solving can be standardized; and the capability and belief that consumer expectations can be met (29:10). The size of Gap 3 is theorized to be a function of teamwork, employee-job-technology fit, perceived control over job by employees,

evaluation systems, role conflicts and role ambiguity (29:14-15). The size of Gap 4 is theorized to be a function of horizontal communication networks and coordination across functions (29:20). Finally, the size of Gap 5 for the consumer depends on the combined nature of Gaps 1-4 on the service provider's side (29:22).

These findings constitute the basis for a conceptual service quality model (Appendix D), which attempts to draw a relationship among the "gaps" and focus on how these factors constitute service quality from two perspectives--(1) the service provider's (or marketer's), Gaps 1-4, and (2) the consumer's, Gap 5 (22:8). Even though this model adds significantly to the understanding of a complex concept, other obstacles inherent in service organizations must be addressed to truly capture the essence of service quality.

Obstacles. The failure to recognize that service organizations have different needs from producing firms has been a major barrier to the success of service quality programs according to DiPrimio (8:9). He contends that five basic "irreconcilable differences" exist that cause traditional quality control programs to fail in service companies: (1) services are intangible and cannot be examined, measured, weighed or tested for functionality; (2) services are perishable and cannot be stored, inventoried or backlogged; (3) service organizations must successfully interface with clients throughout the service-providing process; (4) "highly efficient," "time-sensitive," and

"user-friendly" delivery systems are critical to the nature of the service providing process; and (5) dominant client presence makes it especially difficult to establish objective measures for evaluating service delivery (8:9-10). These facts point to the obvious importance of people involved in all areas of the process to achieve service quality. Thus, achieving and maintaining service quality depends on PEOPLE accurately recognizing customer desires, PEOPLE establishing appropriate standards, and especially maintaining a willing and capable work force of PEOPLE committed to a specified level of performance (3:38).

Strategies. To address some cures for poor service quality a systematic effort must be taken to institutionalize (sustain) the quality focus in the organization (3:42). Institutionalization can be explained by a two-phase model, which considers both the individual and structural levels of behavior analyses, respectively. Phase I is defined by the individual decisions to adopt and to continue a new behavior and Phase II considers structural elements associated with the change, such as the physical setting, organizations' norms and goals, and cohesiveness of the group (9:223-230). AFALC's introduction to process management techniques was geared toward creating a favorable atmosphere for adoption and continued acceptance of the quality focus.

The process management approach, which originated with IBM's early work in quality activities (18:24), has proven successful for private industry in the areas of quality and productivity (15:38). By design, process management is cyclical and deals with the continuous improvement of work activities. In effect, this technique is the force leading toward the institutionalization of quality in AFALC.

Critical to the success of this approach is the proper understanding, analysis, and simplification of the work processes. Additionally, these processes must have measurable inputs and outputs, provide value to the organization, and represent a repeated activity (18:26). Thus, in analyzing complex cross-functional processes, Kane prescribes some "fundamental requirements of good process management" (18:26-33):

1. "Ownership" - Although some performing elements lie outside the owner's organization, an owner must be appointed to each process. He is tasked with the responsibility of ensuring the "health and competitiveness" of the process. In addition, the owner must hold a high enough position in the organization where he is able to recognize how environmental and organizational dynamics impact processes, to have the authority and influence to make necessary changes to the process, to commit to a methodology for achieving continuous process improvement

and to monitor processes to ensure efficiency and effectiveness. These process owners are normally cross-functional and form a new "integrating structure" within the organization resulting in matrix management. Thus, functional experts are assigned to the process owner to help simplify and change elements within the subprocesses (18:26).

2. "Definition/Documentation" - Processes must be fully defined and understood by key employees. As a result, some process deficiencies may be exposed and possibly lead to simplification and improvement (18:27).

3. "Measurement/Process Control" - Measures must be used by a centralized process control function to bring attention to the entire process. This enables continuous quality improvement to occur, as opposed to fragmented single-event problem solving. The ultimate goal is to achieve efficiency in every process (18:27).

4. "Process Methodology" - The fundamentals of quality management must be fully integrated into the processes, thus management's dedication and willingness to apply discipline during implementation are vital. This integration demands "interpretation of new business direction, risk analysis, and identification of process requirements" from top management; "implementation of change necessary to meet requirements" from middle management; and removal of error causes, continued process improvement

tasks, and feedback from the grass-roots level. Although a structured methodology is recommended for consistency, each implementing function must adjust it to fit its specific needs (18:27).

5. "Process Certification" - Since processes are dynamic and do not naturally stay competitive, the process owner must be held accountable for the output of his process. This provides visibility of the actual process, not just what management intends (18:33).

As a result of several studies with customers and lessons learned from their quality program, IBM consultants, Hardaker and Ward, developed process quality management (PQM) to help managers focus their endeavors. PQM describes a technique found useful in getting the "whole team on board" with a business or project to make sure everyone knows where they are headed and what it takes to get there. Hardaker and Kane found PQM to be successful in manufacturing, as well as, non-manufacturing arenas, such as service companies, government agencies, and non-profit organizations (11:112). This approach was also resourceful in structuring AFALC's strategy session. The underlying concepts of PQM do not differ radically from normal planning processes; however, they do specifically focus on the importance of planning at the strategic level. The technique involves gathering the formal management team; developing a collective understanding of the mission; identifying critical

success factors (CSFs) necessary and sufficient to achieve its mission; and defining and prioritizing the processes required to accomplish the CSFs. Finally, a follow-through mechanism should be set up to decide on improvements needed, establish process measurements, and apply resources to make improvements.

Although, PQM itself is not a guarantee for success, it lays the critical groundwork necessary for operationalizing an implementation plan. Success is gained by using tactics that are clearly tied to the strategic objectives of the organization (11:112-114). Therefore, early attention the strategic planning process is essential to the success of AFALC's quality program.

AFALC Organization. To appreciate the challenges posed to AFALC in planning for TQM implementation, a look at its history, mission, and structure is necessary. Review of these areas will clarify the setting in which this research was conducted.

AFALC is located on Wright-Patterson Air Force Base (WPAFB), Ohio and has been a subordinate organization of the Air Force Logistics Command (AFLC) since 1 July 1976. Originally chartered as the Air Force Acquisition Logistics Division (AFALD), its mission was to reduce life cycle costs (LCC) of weapon systems. AFALD was credited with making significant strides in this direction through better support planning, cross-feeding of lessons-learned, establishment of

LCC reduction objectives, and early examination of operational logistics support of new weapon systems in design. These successes highlighted the need for additional logistics support involvement in the acquisition process to improve weapon system supportability and thus, ensure that the Air Force is always ready to conduct sustained combat operations. Accordingly, in October 1983, the commanders of AFLC and Air Force Systems Command (AFSC) agreed to create a joint Air Force Acquisition Logistics Center (AFALC) to collocate acquisition personnel from both commands to reach this common goal. Initially, AFALC reported directly to the Air Staff, while being guided by the two commands; however, in July 1985, AFALC was realigned under AFLC, but continued its dual mission support to AFSC and AFLC (27:1). This reporting structure remains today; however, the latest reorganization (July 1989) has resulted in a name change to Acquisition Logistics Division (AFLC/ALD). It is important to note that only AFALC was in existence throughout the case period.

The mission of AFALC since 1985 has been "to provide logistics program management, engineering and technical analysis, as well as centralized and concentrated logistics expertise, to AFLC, Air Force Communications Command (AFCC), and AFSC organizations" (27:1). The responsibilities that accompany this charter are accomplished by the commanding two-star general, two major staff offices, five

deputies for acquisition logistics (located at each major AFSC product division), and numerous deputy program managers for logistics and their staffs (collocated in major system program offices (SPOs) at the product divisions). AFLC staff also includes the Air Force Coordinating Office for Logistics Research (AFCOLR), and other AFALC personnel provide joint staffing with the Aeronautical Systems Division (ASD) for three special offices. This organizational configuration is at Appendix E. What is not depicted by this chart is the fact that the deputies for acquisition logistics are also Detachment commanders for AFALC personnel at four other bases in addition to one at WPAFB. Thus, the organization personnel are subject to a great deal of matrix management and dual-hatted positions.

II. Methodology

Justification

The case study research strategy has been used to provide unique contributions to knowledge of individual, organizational, social, and political phenomena. A technical definition for this strategy follows (28:23):

"A case study is an empirical inquiry that:

- investigates a contemporary phenomenon within its real-life context; when
- the boundaries between phenomenon and context are not clearly evident; and in which
- multiple sources of evidence are used."

In addition, this method allows the researcher to conduct an investigation while retaining the true characteristics of real-life events (28:14). Consequently, organizational and managerial processes, such as the subject of this research, lend themselves to the case study approach. This is primarily due to the flexibility of its design, and the variety of evidence available to the researcher (i.e., documents, artifacts, interviews and observations) (28:20).

In general, case studies are most preferred when the following basic criteria are met: (1) research questions are stated in the form of "how" or "why"; (2) the investigator has little control over events; and (3) the focus is on a contemporary phenomenon within some real-life context" (28:13). Thus, the use of a case-study approach is appropriate, and the following section explains how the single-case design is employed to conduct this research.

Research Design

A descriptive case study methodology will be used to further address the research questions posed in Chapter 1. The background provided answers to Questions 1 through 3, and Chapters 3 and 4 will answer the remaining Questions 4 and 5. The object of this approach is to report events as they are observed, and consequently, the descriptive study requires little theory, no causal links, and minimal analysis (28:97). The analysis will draw implications from the observations based on findings from the literature and the researcher's experiences. A blueprint of the case design follows.

Data Collection

In response to the organization's request, the facilitators and researcher held meetings with the quality team personnel to develop an agenda for the upcoming off-site Quality Planning Session. A proposed agenda was presented to top management for approval. Subsequently, interview questions and an article on process management techniques were forwarded to proposed attendees. Focus group interviews were conducted with attendees by telephone or in person from a structured interview guide to provide the facilitators with background information to tailor the agenda activities appropriately. Interview feedback was consolidated to use as a point of departure for key discussions at the planning session. An off-site Quality Planning Session was observed by the resercher 1-2 Mar 89

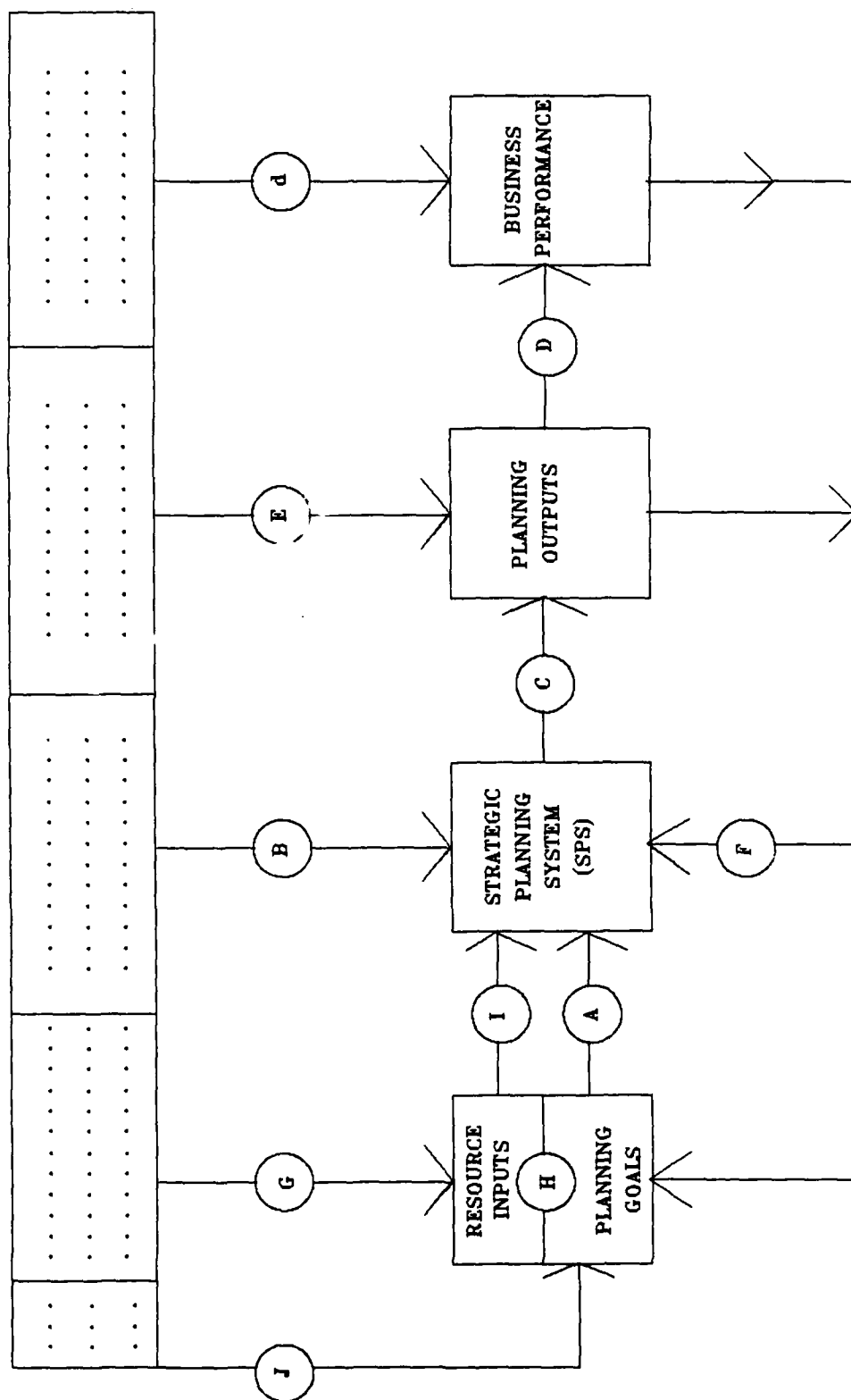
and attended by the senior military and civilian managers from each AFALC staff agency and detachment. Finally, follow-up interviews were conducted with senior management to identify activities and perceptions resulting from implementation of the strategic plan. Although observation of a follow-up executive session was part of the original design, scheduling conflicts and an internal reorganization prevented a timely meeting. Thus, interviews, internal documents, letters, and regulations were substituted for this phase of the research.

Data Analysis

Due to the nature of this research, analysis of the data will be qualitative. Summarization was used to a large extent to ensure anonymity of respondents. Assessments of the findings will reference typical models of the strategic planning process (Figure 2) and the components of strategic management that impact the implementation of a plan (Figure 3). Figure 2 is a schematic diagram of the planning process that can be used as a framework for evaluation (19:549). The various elements of the evaluation are designated by circled letters and are defined below:

- A. Effectiveness of Planning
- B. Relative worth of the Strategic Planning System (SPS)
- C. Role and Impact of the SPS
- D. Performance of Plans
- E. Relative Worth of Strategy
- F. Adaptive Value of SPS
- G. Relative Efficiency
- H. Adequacy of Resources
- I. Allocation of Planning Resources
- J. Appropriateness of Planning Goals

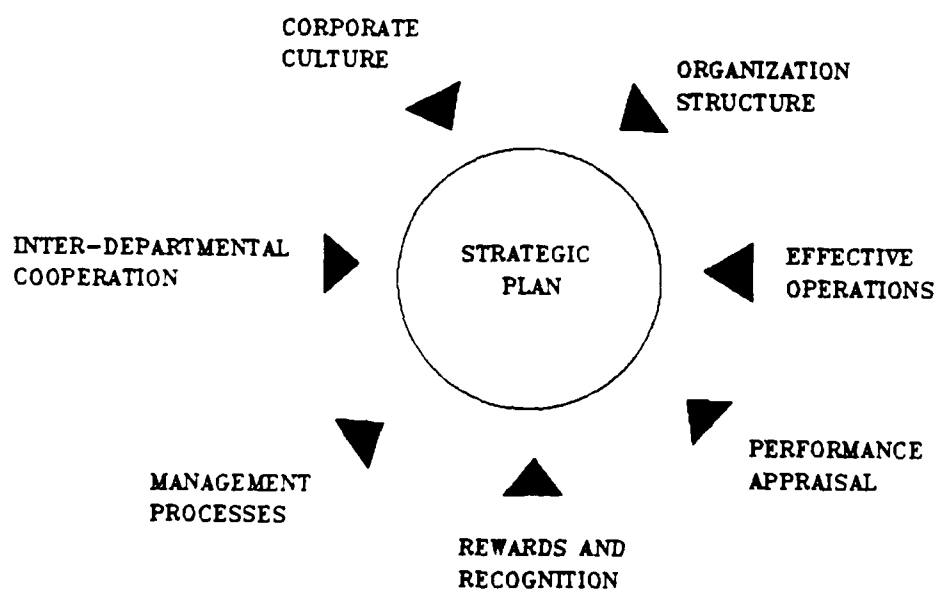
EXTERNAL STANDARDS



(19:549)

Figure 2. Strategic Planning Evaluation Framework

Figure 3 depicts the means and circumstances under which strategic plans must be implemented (21:67). Thus, it highlights the components of strategic management that must accompany and support the plan for successful implementation (21:66). However, since the planning phase comprises a bulk of the findings, the primary focus of the analysis will be the strategic planning process. Conclusions and recommendations will be based on these assessments.



(21:67)

Figure 3. Components of Strategic Management - Implementing Strategy

III. Findings and Analysis

This section will address consolidated findings from pre-session interviews, the quality planning session and other sources used to follow-up on action items from the planning session. Additionally, the findings will be analyzed to reflect positive and negative impacts on the strategic plan and future implementation efforts.

Findings

Pre-Session Interviews. The structured interview guide at Appendix F was used to interview all proposed attendees. Those individuals consisted of the top military and civilian managers for each staff agency, as well as detachment commanders co-located with AFSC product divisions. The purpose of this interview was to gear management's thinking toward session topics and to provide the facilitators with some insight into the needs of the organization.

1. MISSION: WHAT IS THE PRIMARY MISSION OF YOUR ORGANIZATION? WHAT ARE THE PRIMARY MISSION ELEMENTS, FUNCTIONS OR TASKS FOR WHICH YOU ARE RESPONSIBLE (Limit to 5-7)?

The purpose of this question was to help management define the boundaries of their business and reflect on their job as a member of the AFALC team. Additionally, this question was geared toward exposing unique organizational characteristics that may impact the design of their quality

improvement efforts. Since a clear understanding of the team's mission is the first step in the PQM process, it is crucial that the mission statement be articulated and understood by all. Additionally, identification of mission elements or functions is a starting point for looking at processes that achieve the mission. Appendix G, Exhibit 1 contains a summary of these responses. The detail of responses varied depending on the interviewee's level in the organization (i.e., field or staff). However, most answers are related to one or more of the following categories: (1) Provide acquisition logistics specialists to System Program Office (SPO) directors to ensure the Air Force and DOD purchase supported and supportable weapon systems and items; (2) Integrate logistics requirements into the acquisition process through proper planning, tools execution, and tracking; (3) Perform an advocacy role for users and Air Force Logistics Command; and (4) Recruit, train, assign and manage matrixed personnel.

2. CRITICAL SUCCESS FACTORS (CSFs): WHAT ARE THE CRITICAL SUCCESS FACTORS ASSOCIATED WITH THE ABOVE FUNCTIONS? OR WHAT THINGS MUST GO WELL IN ORDER FOR YOU TO ACHIEVE YOUR MISSION? OR WHAT CHARACTERISTICS MUST YOUR "PRODUCTS" HAVE TO BE JUDGED SUCCESSFUL?

The purpose of this question was to do some groundwork in preparation for the CSF exercise planned for the upcoming session. The various responses were collected, consolidated, and presented to the session attendees as a starting point for discussion. The goal of the exercise is to gain

group consensus on the critical objectives that are necessary and sufficient to achieve the stated mission (11:114). Appendix G, Exhibit 2 reflects the consolidated draft of CSFs distributed at the session.

3. KEY DECISIONS: WHAT ARE THE KEY DECISION FORUMS IN WHICH YOU PARTICIPATE OR FOR WHICH YOU ARE PRIMARILY RESPONSIBLE? NOTE - DECISIONS GENERALLY RESULT IN THE IRREVERSIBLE COMMITMENT OR EXPENDITURE OF ORGANIZATIONAL RESOURCES.

The purpose of this question was to identify functions or individuals who have the authority and responsibility over specific activities. This information may be useful in identifying forums through which change may be implemented, and possible process owners for managing those changes. With few exceptions, most managers were in the mainstream of key business decisions; however, they generally served in an advisory capacity. Also, the handling of various personnel actions was also a common response.

4. MAJOR CUSTOMERS: WHO ARE YOUR MAJOR ORGANIZATIONAL CUSTOMERS? WHAT ARE THEIR EXPECTATIONS?

The purpose of this question was to foster an awareness of who the organization serves and what quality means from the receiver's perspective. It was expected that the interviewees had had previous experiences and/or dialogue with their customers to become knowledgeable of their expectations. Further, responses concerning expectations were closely linked to the previously identified critical success factors. Answers identifying the customers were

very consistent among interviewees and can be summarized as follows:

External Customers -

- (1) AFLC and other support agencies.
- (2) Major Commands (MAJCOMs) and other using agencies.
- (3) Product Division commanders.
- (4) System Program Office (SPO) directors and organizations
- (5) Laboratories.
- (6) Defense Industry.

Internal Customers -

- (1) AFALC staff.
- (2) Coworkers and subordinates.

5. BARRIERS: WHAT ARE THE PRIMARY BARRIERS, OBSTACLES, CONSTRAINTS OR OTHER LIMITING FACTORS WHICH TEND TO OPPOSE ACHIEVING YOUR ORGANIZATIONAL OBJECTIVES SUCCESSFULLY?

The purpose of this question was to identify those policies, regulations, environments, and people that may conflict with the goals of continuous improvement. These inhibitors must be discussed and dealt with before an effective program can be put in place. The extensive list provided in Appendix G, Exhibit 3 is representative of the responses received. Although time would not permit addressing each of these points during the session, it is important to note that some internal conflict exists.

6. TQM: IT HAS BEEN DIRECTED THAT TOTAL QUALITY MANAGEMENT WILL BE IMPLEMENTED THROUGHOUT THE DOD. HOW DO YOU SEE THAT AFFECTING THE WAY YOUR ORGANIZATION DOES BUSINESS? HOW WILL TQM WORK IN YOUR ORGANIZATION? DO YOU ANTICIPATE TQM WILL CAUSE MAJOR CHANGES IN YOUR WAY OF DOING BUSINESS?

The purpose of this question was to isolate attitudes or preconceived ideas about TQM itself. Also, answers should provide an indicator of the amount of exposure the interviewees have had to TQM. A majority of the responses rated the potential of TQM in a positive tone and had already been involved in process management activities. However, a few interviewees took a more skeptical view of this change as just another "Ivory Tower" idea.

Quality Planning Session. The purpose of this session was to provide an open environment for AFALC top management to develop a strategic plan implementing their quality program. Thus, an off-site meeting was held to accomplish the Executive Education and Strategic Planning Milestones of the "Roadmap to TQM" (reference Appendix C). The meeting agenda is at Appendix H, however the actual chronology of this two-day event is summarized throughout the remainder of this section. The desired outcomes from the meeting were for managers to understand their role in directing a TQM effort, to set goals, and to accept the responsibility for integrating TQM into every aspect of the organization. Attendees represented the following offices:

<u>Office Symbol</u> (1)	<u>Description</u>	<u>Number of Persons</u>
AFALC/CC	Commander	1
AFALC/CA	Assistant to Commander	1
AFALC/CS	Chief of Staff	1
AFALC/CCJ	Specialized Management Office	1
AFALC/ER	Deputy for Engineering and Reliability	1
AFALC/LS	Deputy for Integrated Logistics	1
AFALC/AX (2)	Deputy for Avionics Control	2
AFALC/RO	Resources Management Office	1
AFALC/QP	Assistant to Commander for Quality Programs	1
AFALC/LR (2)	Air Force Coordinating Office for Logistics Research (AFCOLR)	2
AFALC/RA (2)	Joint Technology Insertion Program (JTIP) Office	1
AFALC/OA (3)	Deputy for Acquisition Logistics Aeronautical Programs	1
AFALC/OB (3)	Deputy for Acquisition Logistics Missile Programs	2
AFALC/OE (3)	Deputy for Acquisition Logistics Electronic Programs	2
AFALC/OM (3)	Deputy for Acquisition Logistics Armament Programs	2
AFALC/OS (3)	Deputy for Acquisition Logistics Space Programs	2
		<hr/> 22

NOTES: (1) Only one office was not represented: AFALC/PP,
Office of Product Performance Agreement

(2) Co-managed by AFALC and AFSC Product Division

(3) Located in AFSC SPOs.

Day 1: The facilitator welcomed the group and explained the purpose of the meeting. He noted that early attention to the strategic planning process is critical to the success of their quality program. After discussing rules of engagement, or expected behaviors during the session, the group's first task was to shrink and prioritize

the critical success factors (CSFs) collected from the interview responses (reference Appendix G, Exhibit 2). Referring to the IBM article "Getting Things Done" (11:112-119), the facilitator reviewed ground rules for this exercise. He also reminded them that CSFs represent the subset of things that must go well, and one item alone is necessary, but not sufficient to meet the mission. However, collectively, all CSFs must be necessary and sufficient.

The introduction to CSFs stimulated a number of questions which led to an early discussion of the mission statement. Since CSFs must accomplish the mission, the group preferred to review the mission statement to be sure they had a common perspective. Although their mission statement is prescribed by regulation, AFLCR 23-17, it was currently under revision due to previous reorganizations. The remainder of the morning was spent refining and operationalizing the mission statement until a consensus was reached on the following version:

"Inject logistics considerations into the acquisition process to achieve supported and supportable systems and equipment at the lowest possible life cycle costs."

The group agreed it was necessary to develop this statement to properly focus the CSF exercise.

The second half of the day was devoted to building a matrix to relate the CSFs to the key processes that accomplish them. This exercise involved a facilitator overview of process management philosophy, identification of CSFs, and tying key processes to these CSFs.

The overview included a definition of a process, its key elements, and a discussion of variance management. Processes were defined as the activity which transforms inputs to outputs, that usually result from customer and supplier negotiations. Key elements necessary to manage a process include assigned ownership, clear definition/simplification, measurement techniques, and an improvement methodology. These concepts were expanded for the group as previously discussed in Chapter 1 under Service Quality Strategies (pp. 19-21). It was also highlighted that the highest payoff will result from mastering the cross-functional processes. Process variance management is the function of process action teams (PATs) led by the process owner. A profile of variances from the norm must be defined and controlled. Thus, boundaries must be established for each process with an owner empowered to manage the entire activity.

The group collectively identified five CSFs representing the most important things the AFALC must have to achieve its mission:

- 1 Excellent logistics procedures, tools and training;
- 2 Competent personnel at all levels;
- 3 Recognized high-value added activities resulting in customer satisfaction;
- 4 An interactive knowledge of customers' needs; and
- 5 Logistics support articulated in contractual documents.

Four groups were formed to take each CSF and return with the key processes that contribute to achieving that

CSF. The groups were subsequently asked to narrow the number of processes to five by focusing on those with a major impact on the CSF. The summary at Appendix I resulted from this exercise.

At this point the entire team assembled to complete the matrix by tying each CSF with the processes needed to accomplish it. Lengthy discussion ensued regarding the overlap of processes, the variety of tasks and perspectives present, dual responsibilities for processes, whether communication was a process or a CSF, and if limiting the number of processes was realistic. However, general agreement was achieved the shell of the matrix: 5 CSFs and 9 key processes.

The first day was drawn to a close at this point and the plan was to complete the matrix on the following day. The group was reminded that the short range goals of the CSF exercise was to (1) identify key processes for management attention; (2) assign ownership to each process; and (3) set goals (action items) for improvement.

Day 2: The goals set for this final day included tying CSFs to processes impacting their achievement, analyzing the processes, and selecting processes for improvement initiatives.

Upon revisiting the matrix, deliberations resumed concerning communication. It had too many sub-elements to be a process; however, most felt it was the most critical element of their operation and the various processes.

Consequently, "communication at all levels" was added as a sixth CSF. To complete the matrix, the group addressed each individual process and determined which CSF(s) it impacted most. The rule of thumb for this determination was based on answering two question: (1) Does this process drive you toward the CSF? or (2) Does the process provide input to the CSF? The resulting matrix is shown in Figure 4.

Given the processes identified in Figure 4, the group's next task was to analyze the processes to determine which areas most improvement was needed. The same sub-groups were used to breakdown each process--identify it, determine obstacles, suggest alternative plans of attack, and recommend action. This exercise was necessary to add reality to the concepts presented in the matrix, and to give management an appreciation for the tasks they must delegate. Before any improvement can take place, the actual processes must be clearly defined and understood. The sub-groups reported their findings in a brief presentation to the entire group.

At this point, the groups were reassembled to define the subset of processes that needed most attention and identify owners for leading appropriate actions. The facilitator suggested the following criteria be used: (1) the process impacts several critical success factors; (2) AFALC has relative control (ownership) of the process; and (3) the probability of successful payback to AFALC is high. Due to time constraints, this task was tabled for decision

Process / CSF:	ELP	CP	HVA	CUS	CONT	COMM
Develop ILS Procedures	X		X		X	X
Train People	X	X	X	X	X	X
Develop Tools and Techniques	X		X	X	X	X
Select Personnel	X	X	X			X
Conduct Logistics Analysis	X		X	X	X	X
Manage Personnel	X	X		X		X
Develop/Translate Requirements			X	X	X	X
Develop RFP and Specifications			X	X	X	X
Advocate Logistics/Support	X	X	X	X	X	X

(X - denotes major impact)

ELP - Excellent logistics procedures, tools, and training
 CP - Competent personnel at all levels
 HVA - High value-added resulting in customer satisfaction
 CUS - Interactive knowledge of customer needs
 CONT - Logistics support articulated in the contract
 COMM - Communication at all levels

Figure 4. Matrix of Critical Success Factors (CSFs) and Key Processes in AFALC

at the Quality Council Meeting (with the same attendees) scheduled for that afternoon. This exercise ended the facilitated portion of the session. The facilitator encouraged the group to replicate this process at their division/detachment levels and offered his assistance in conducting such sessions. Each attendee was asked to provide feedback in the following categories: (1) What I got out of this session; and (2) What I plan to do next in my organization. These responses are listed at Appendix J.

Based on the previously suggested criteria, the Quality Council selected five processes as the best candidates for AFALC-wide improvement initiatives with associated owners: (1) develop Integrated Logistics Support (ILS) procedures (AFALC/LS and ER); (2) train people (AFALC/CS); (3) conduct logistics analysis (AFALC/ER); (4) manage personnel (AFALC/CS); and (5) develop requests for proposal (RFPs) and specifications (AFALC). In addition, "train people" and "manage personnel" were selected for immediate action by Process Action Teams.

Recap of Session: Thus, at the conclusion of the two-day session, the management of AFALC had agreed on its overall mission, the CSFs (goals) required to accomplish it, and the key processes that must be mastered to accomplish those goals. In addition, they focused on two major areas for immediate improvement action. The group agreed to schedule a follow-up session for the next quarter to discuss progress toward these goals.

Other Data. Post-session interviews, regulations, and other internal documents at AFALC provided information pertinent to this case. Most importantly, three follow-on strategy sessions were conducted by the AFIT facilitators with AFALC/ER, AFALC/OB and AFALC/OE.

This additional data revealed that action items for analyzing major processes--Train People and Management Personnel--were assigned to PATs and a draft regulation is being developed to direct field improvements. This course of action resulted from an in-house analysis of training and experience levels by staff and detachment representatives.

Further, reorganization of AFALC staff agencies impacted three major functions. The turmoil of this transition interfered with quality activities while the transfers took place. The reorganization primarily impacted AFALC/ER, AFALC/RA, and AFCOLR, and the purpose was to consolidate internal resources that focus on technology transmission. Ironically, this critical element of their mission didn't survive the prioritization of critical success factors.

The next Quality Planning session is scheduled for early September at which time the new ALD will have a change in command. This meeting should provide an opportunity for the new commander to commit himself to the quality agenda as it is, or offer some direction of his own before implementation efforts go too far.

Analysis

This section will provide an analysis of the previously stated findings with respect to their impact on the formulation of the strategic plan, as well as future implementation of TQM in AFALC. The plan will be evaluated with respect to the elements of a strategic planning system, while future implementation will be assessed in concert with the implementing components of strategic management.

Impact on Planning Process. Instead of solely relying on subjective criteria, such as the boss's approval or consolidated opinions of management, the evaluation of this plan will incorporate how well the elements of the strategic planning system are addressed (reference Figure 2, p. 28).

Effectiveness of Planning. Effectiveness relates to how well the plan addresses the goals of the organization (19:548). In this case, the goals are captured by the mission statement as revised at the Quality Planning Session:

"Inject logistics considerations into the acquisition process to achieve supported and supportable systems and equipment at the lowest possible life cycle costs."

Feedback from the participants indicated that the session benefited the group by clarifying the mission statement, elevating discussion on crucial topics, and reviewing process management concepts. Additionally, the CSF exercise resulted in a clearer perspective of what goals were necessary to meet the mission and associated activities

to achieve those goals. Thus, the basic strategy of using process management techniques was adopted to address the goals, or CSFs, identified by the group. For example, when asked what they planned to do next in their organization, most participants indicated replication of the same exercise to some degree. However, no team decision was made on how to deploy the plan to subordinate units. Therefore, the lack of consistency in subordinate implementation efforts may erode the impact of the major directions targeted by the group. Deming stresses this very point in his management principle #1: "Create Constancy of Purpose" (5:24). He emphasizes that management must not only set the course, but it is also responsible for providing a roadmap for the rest of the organization to follow (24:11).

Relative Worth of the SPS. This assessment of planning relates to the features and characteristics of the SPS to external standards for planning (19:550). In this case, the external standards for structuring AFALC's quality program are the DOD guidelines for TQM as adapted by AFLC in the QP4 approach. Through AFALC/QP, the organizational structure for quality improvements has been established at HQ direction. The Quality Council and Working Group are functional, and process evaluation teams (PETs) and process action teams (PATs) have been designated (14). However, a missing element has been the lack of continued focus on quality issues. Previous attempts to energize the

program had failed due to unfamiliarity with process management techniques, unrealistic deadlines, and various other factors. Therefore, a good portion of the planning session was dedicated to processes. In addition, the other elements of QP4 were addressed during the team exercises. For example, people, their performance, and the ultimate service provided to the customer are analogous to the CSFs identified by management. The priority processes selected for immediate action also involved people issues--"Train People" and "Manage Personnel." Thus, the basics for a viable program exist, but total commitment is necessary for the plan to work.

Role and Impact of the SPS. This assessment of planning deals with whether the plans are implemented in the organization and do they actually guide the strategic direction of the organization (19:550). As previously discussed, the absence of a common deployment strategy to subordinate organizations leaves a hole in implementation efforts. In addition, no formal feedback mechanisms were instituted for monitoring or applauding progress. Consequently, some organizations received facilitated support, others continued with on-going quality initiatives, while others awaited further guidance. Hewlett Packard attributes much of its quality successes to proper measurement. They abide by the maxim, "... that which is measured gets better; but that which is measured and reported gets better faster"

(26:330). Thus, there are few indications that the outputs of the planning session are currently guiding AFALC activities to a great extent

Performance of Plans. This assessment refers to the strategy-performance relationship that evolves from each strategic choice (19:550). This element is not applicable to this case. No standards have been developed for comparison, and such evaluations would require a longer period of time for measurement.

Relative Worth of Strategy. This element of planning attempts to use standards to assess the value of foregone strategic opportunities (19:557). Again, a comparable assessment can not be made with data available for this case.

Adaptive Value of the SPS. This assessment refers to the SPS's ability to change to correct deficiencies (19:552). One of the positive aspects about the process management approach is its flexibility and adaptability to various types of organizations. Further, a requirement of good process management is a structured methodology (18:27). When developed completely, this structure provides an audit trail that allows system inputs or goals to be adjusted to fit the needs of the organization. The recent reorganization of AFALC, and their added focus on technology insertion, will possibly lead to some adjustments to the plan.

Appropriateness of Planning Goals. This is a judgemental assessment of the appropriateness and reality of the planning goals (19:552). With respect to AFLC, the CSFs will be scrutinized. All things being equal, the goals identified are appropriate and if achieved should improve the quality of service provided by AFALC. However, it appears that issues concerning communication should be dealt with immediately. Communication represents a CSF, a barrier and a process involved in every key activity they perform. Therefore, much of the benefit from any improvement efforts may be lost due to breakdowns in communication. The uncertainty of future roles of the acquisition community in DOD also may be of concern to the leadership. Although no planners at this level can speculate the impact, changes to future DOD acquisition procedures may be in congruent with AFALC's goals. Additionally, expectations for successful improvement processes may be hindered by incompatible AFLC/AFSC direction to AFALC personnel. AFALC's program would have more credibility, if backed by common guidance from each command based on a joint assessment of their needs.

Overall Assessment of Planning. Although two days were not sufficient to formalize a detailed plan, AFALC leadership adopted a structured "roadmap" to guide future efforts (reference Appendix C). The planning exercise resulted in a common understanding of the mission, consensus on activities required to meet the mission, and a general

approach to achieving quality. However, the leadership must fully commit their time and resources to total integration of the process management road to quality.

Impact on Implementation. Future implementation of AFALC's strategic plan will be evaluated based on the existence of other components of strategic management critical for success (reference Figure 3, p. 29). Although a significant amount of time must be devoted to a plan, change comes about through implementation. Thus, early attention to the means and circumstances (other components of strategic management) under which the plan will be implemented is essential to developing an executable plan. These components are addressed in the remainder of this section.

Corporate Culture. "Any strategic plan must be consistent with the organization's culture" (21:67). The probability of achieving this consistency is high since the plan was developed internal to AFALC. No other group of planners could be as sensitive to the actions required by their organization to meet the plan's goals. In addition, wide acceptance of the plan is more likely due the participation of those who must implement it. However, diverse organizational cultures in the various product divisions will require some adjustments to the plan.

Inter-Departmental Cooperation. It is well known that strategies are better supported in organizations that benefit from the results of cooperative teamwork (21:67).

This requires that diverse functions workclosely and perform unselfishly to benefit the team. A strong team concept appears to be lacking in AFALC as evidenced by many "we-they" discussions. For example, divisive factors exist in the following relationships: line versus staff; logistician versus project manager; HQ AFALC versus SPO director; and military versus civilian. If strong rivalries exist and prevail in these areas, any implementation effort will suffer.

Management Processes. Budgeting, planning, information systems and other management processes must be in concert to make strategies happen (21:67). Although these areas were not specifically addressed during the planning session, management activities will have a large impact on implementation efforts. The peculiarities of matrix management require more effort from managers, as well as their personnel. Reporting relationships are further complicated by integrating a quality reporting structure. Before reasonable objectives can be established for process improvement, it is important to clarify roles for management and each functional unit to fully understand current processes and identify responsible individuals. Management itself is a service (2:vi); therefore, management processes should also be reviewed as AFALC applies and revises their strategy.

Rewards/Recognition and Performance Appraisals. These two components conflict with the strategic plan in similar manners. They both are normally based on

performance over a one year period (21:67). Thus, it is difficult to rate long-term success in the short-term. However, if no incentive exists for making long-term improvements, quality is at a loss. AFALC's Quality Working Group proposed an annual organization award to publicly recognize personal contributions toward achieving quality goals. If implemented, this program may assist in adding visibility to further efforts.

Effective Operations. This component suggests that day-to-day operations must be carried out effectively or no strategic plan will work (21:67). The scope of this case was at the management level and day-to-day activities were not addresses.

Organization Structure. An often ignored management truism is that structure follows strategy (21:67). Since most DOD organizations have existed for some time, units must build strategies to work within the current structure. AFALC's structure is complex in that many positions are dual-hatted and the detachment commanders manage collocated personnel belonging to AFSC and AFLC. Additionally, assignment to the Quality Council creates another integrated structure which makes it especially difficult to assign responsibilities to "process owners." Since the complexity of this environment is a given, harmonious interaction of each function is necessary for a good implementation.

Overall Assessment of Implementation. Although it is very early to predict the success of their implementation efforts, some observations can be noted. Subordinate levels must be aware of the direction management has set for the organization. Quality must be visible and an integral part of this focus. AFALC must work to get a consistent message out and follow-up on progress continuously. Tactics must be tied to the strategic plan of the organization and be revised as goals change.

IV. Conclusions and Recommendations

The purpose of this study was to describe and assess the implications of AFALC's strategy for implementing Total Quality Management (TQM). Hopefully, this research will be beneficial to AFALC and other DOD service organizations in refining their approaches to achieving continuous quality improvements. This section will include lessons learned from answering the research questions, practical implications of the study, and recommendations for future research.

Lessons Learned

Answers to the research questions provide useful insights for managers of quality programs. Thus, each question is revisited to focus on the lessons gained.

(1) "What is TQM and how will it be implemented in AFALC?" TQM is a strategy to institutionalize continuous quality improvement throughout the DOD (6, 7). The TQM philosophy is based on the combined wisdom of quality experts such as Dr. W. E. Deming, Dr. J. H. Juran, and Dr. P. B. Crosby, who stress the use of process management techniques and the need for management commitment to quality efforts (10, 20). AFALC's approach to implementation will "mirror" that of QP4 as developed by their Headquarters, AFLC who has been the leader in quality initiatives. Their formula, QP4, encompasses PEOPLE + PROCESS + PERFORMANCE + PRODUCT. Although QP4 provides the

organizational requirements and sets the quality agenda, AFALC was still required to tailor their quality program to suit their specific needs. Thus, AFALC chose Jennings' "Roadmap to TQM" (reference Appendix C) to guide their efforts. In general, this case concerned the initial phases of this process which fostered an awareness of the TQM philosophy. Management was exposed to process management techniques and led in identifying critical processes for mission accomplishment. This foundation of strategic planning will play an integral role in institutionalizing quality in AFALC.

(2) "How can the quality of service programs be improved and what techniques may be useful for this purpose?" Service quality can be improved by using a systematic effort to sustain the quality focus in the organization (1:153-156; 3:42). Process management techniques have been used successfully in manufacturing and service industries to institutionalize organizational change (11). Besides ownership, definition, measurement methodology, and certification (see page 20), good process management requires the total commitment of top management during the early stages of change. Since the products from AFALC are basically intangible, quality evaluations must be based on the activities or processes performed to meet mission objectives.

(3) "How does the environment at AFALC differ from most Air Force organizations implementing TQM and what obstacles must it overcome?" Although AFALC functions similar to an intermediate command, it has several peculiarities. For example, this organization manages matrixed personnel, develops policy, and advocates logistics support in the acquisition process. The latter is a unique function which clearly distinguishes this organization from all others. This advocacy requires that they work in their customer's environment and receive direction from at least two commands. Thus, AFALC is challenged by more than the typical obstacles faced by service organizations in implementing quality. The most critical being communication gaps, role ambiguity, and commitment to a single quality agenda.

(4) "How important is strategic planning to the success of implementing programs and what key elements are critical to effective strategic planning?" Good strategic planning provides the foundation for any successful implementation efforts. Early attention to this process has proven beneficial to quality and productivity gains in the private sector. Several elements of strategic management must accompany the plan to foster smooth implementation: consistent corporate culture; inter-departmental cooperation; effective management processes; fair rewards and recognition of performance; effective day-to-day operations; and a compatible organization structure (21:67).

(5) "How can this case study benefit other organizations implementing TQM or another quality program?" This case should provide insight to managers regarding the complexity and scope of a quality effort. Managers should recognize that quick-fix solutions will not impact long-term change. Additionally, the many obstacles to achieving success in quality improvement require that personnel have a positive attitude and plan to work at quality for the long haul (1:62-81). Continuous improvement is an on-going, never-ending process.

Practical Implications

This study reiterates the importance of many factors needed to achieve service quality by following the "Roadmap to TQM". Initially, a common sense of direction must be established and top management must light the torch to carry throughout quality efforts. Managers must then identify challenges and obstacles to achieving their mission, and develop a plan for integration of quality goals in the overall strategic plan of the organization. Finally, implementation must be monitored, revised, and rewarded to keep the focus on institutionalizing quality improvement (11:119; 24:10-14; 25:192).

AFALC could use these inputs in revising their current plan to incorporate the focus on technology insertion, which drove their latest reorganization.

Recommendations for Future Research

Since this study was descriptive of a single case, some potential areas for further research exist.

Recommendations include the following:

(1) Customer satisfaction is the primary measure of success for service organizations. Although progress has been made in identifying perception "gaps", more rigorous research could be used to qualitatively measure the impact of these perceptions. Parasuraman, et al offer a 26-item instrument, SERVQUAL, for assessing customer perceptions of the quality of a service firm (23:86). Additional research could encompass analysis and validation of this model in a DOD setting.

(2) Follow-on research in AFALC may encourage continued focus by the organization. Analysis of progress through phase 2 and 3 of the "Roadmap to TQM" would provide additional documentation for cross-feed into other service organizations. Follow-through is critical to making quality a way of life and not just a program (2:144).

(3) The process of management itself is often a neglected area when improvement is proposed. However, how well managers manage has a significant impact on all other processes of the organization. Thus, many opportunities for research lie in the study of management functions.

(4) Since strategic planning plays such a vital role, some effort into developing a decision support system to guide the planning process could prove beneficial to management.

Appendix A: DOD Goals for TQM

Long-Range Goals (7 years)

- Institutionalize TQM throughout DOD. Make TQM a way of life, not just a slogan.
- Achieve the commitment, involvement and dedication of all DOD personnel toward continuous process improvement.
- Encourage widespread implementation of continuous process improvement in the Defense industry, and develop criteria for evaluating progress toward this ideal for source selection strategies.
- Establish broad-based congressional support for TQM objectives and efforts to help remove legislative barriers to program initiatives and implementation.

Mid-Range Goals (3 years)

- Establish and implement mechanisms for deploying policy goals and analytical tools to all activities.
- Harmonize DOD Directives, Regulations and Instructions with the TQM approach to ensure commonality of improvement approaches and avoid confusion.
- Eliminate barriers to TQM progress, such as contradicting policies, practices, regulations, laws, and attitudes.
- Obtain commitment from major defense contractors to implement their own continuous process improvement programs. This equates to achieving "critical mass" (trained senior leadership actively performing process improvement) in at least the top 25 contractors. Critical mass is essential to institutionalizing the program in any organization.
- Establish "critical mass" within DOD, starting with the acquisition community, and ensure all personnel are trained and practicing TQM.
- "Develop, produce, acquire, and promulgate a standard set of TQM training materials" for use by DOD activities and the defense industry.

- Establish a mature, functioning staff of facilitators to be available as a reference for those implementing TQM at various levels.
- Develop a constant interchange with other government agencies to foster better use of TQM resources and share lessons learned in its implementation.
- Develop and cultivate key congressional supporters to ensure TQM's longevity.

Short-Range Goals (1 year)

- Establish an Executive Steering committee and subordinate teams to demonstrate top management commitment. Begin training and activities on continuous process improvement techniques for both groups.
- Establish a core of trained facilitators in-house while using outside consultants to guide initial implementation efforts.
- Collect and develop training strategies and materials to ensure a common understanding of TQM principles and practice throughout the implementation process.
- Establish a comprehensive R&D program to investigate implementation methods and disseminate lessons learned from varying practices, techniques, and tools.
- Hold regular meetings at the executive level to facilitate timely policy deployment.
- Develop and submit TQM implementation plans to DOD by 31 December 1988 and update periodically.

Appendix B: Air Force Logistics Command Regulation 23-17

DEPARTMENT OF THE AIR FORCE
Headquarters Air Force Logistics Command
Wright-Patterson AFB OH 45433-5001

AFLCR 23-17
29 January 1986

Mission and Organization - Field

AIR FORCE ACQUISITION LOGISTICS CENTER (AFALC)

This regulation contains the mission, functions, and organization of the Air Force Acquisition Logistics Center (AFALC).

1. **Mission.** The AFALC carries out the logistics responsibilities of AFLC for those systems and subsystems, components and support equipment throughout the acquisition process, from preconceptual through production phases, to make sure fielded systems are supported and supportable; to inject logistics concerns early in the design to influence life cycle cost.
2. **Relationships.** Direct communication is authorized with other governmental agencies as necessary to accomplish assigned responsibilities. Communications through command channels are required for matters of policy, resources or adjustments in assigned responsibilities of the AFALC.
3. **Organization.** The AFALC is organized into several fundamental levels and categories each of which must have a consistent and clear relationship to the Commander and to other elements of the staff. The organizational configuration of AFALC activities is controlled through directorate level. Divisions may be set up if they meet the criteria contained in AFR 26-2 and appropriate supplements. The mission, functions, and organization of each AFALC activity are contained in attachments to this regulation. Changes to this regulation must be justified and processed according to AFR 26-2/AFLC Sup 1.

NOTE: Although the latest official version, this mission statement has been under revision for 2 years. The latest draft dated May 1989, attempts to update functional responsibilities as a result of numerous reorganizations. Due to space limitations, only the pertinent information from this regulation was re-used.

DEPARTMENT OF THE AIR FORCE
Headquarters Air Force Logistics Command
Wright-Patterson Air Force Base OH 45433

AFLCR 23-17
Draft May 89

Mission and Organization - Field
Headquarters Acquisition Logistics Division (ALD)

This regulation contains the mission, functions, and organization of the HQ ALD. It applies to all persons who require information about the organization and mission of ALD.

1. Mission of ALD:

a. General Information. The ALD is charged with assuring that logistics considerations are injected into the acquisition process thus ensuring supportable and supported systems are deployed to the using commands. ALD supports MAJCOM acquisition efforts and provides logistics, engineering, and procurement expertise for national defense and research programs. In addition, ALD directs major activities in promulgating technology transfer/transition and logistics research requirements.

b. Responsibilities Assigned to ALD:

(1) Developing and applying acquisition concepts, procedures, techniques, and operating policies in support of MAJCOM development and acquisition activities on USAF, interservice, and international programs.

(2) Introducing techniques and technologies for improving system availability, supportability, and life cycle costs.

(3) Assessing validity of stated requirements to assure cost effective and operationally supportable solutions.

(4) Developing, expanding, and improving all types of training programs to improve the technical qualifications of logisticians.

(5) Applying operational logistics experience in the engineering and technical fields to MAJCOM development and acquisition activities.

(6) Developing and maintaining an Air Force corporate memory for lessons learned and providing feedback to development agencies on known design deficiencies.

(7) Identifying operational and support problems and needs for which there are no current practical solutions and providing that information to the AFSC laboratories.

(8) Assuring the adequacy of test plans for achieving optimum logistics support of new systems.

(9) Translating general operational and support concepts into specific acquisition logistics support plans.

(10) Providing direct assistance to program offices to improve logistics supportability of systems and equipment from the conceptual through the deployment phases of the acquisition process.

(11) Advising AFLC, AFSC, AFCC, using commands, and the Air Staff of logistics status of acquisition programs.

(12) Assuring adequacy of budgeting for logistics requirements on all acquisition programs and planning for potential Security Assistance Program requirements.

(13) Initiating and participating in joint AFLC/AFSC activities to gain maximum effectiveness of business strategy planning in the acquisition process.

(14) Participating in early procurement planning and proposal preparation to ensure the adequacy of logistics provisions contained therein.

(15) Exploiting standardization, commonalty and off-the-shelf procurement within assigned acquisition programs.

(16) Facilitating and expediting Program Management Responsibility Transfer (PMRT).

(17) Managing Air Force actions to reduce current and potential operations and support costs.

(18) Ensuring improved reliability and maintainability of systems, subsystems, and equipment.

(19) Ensuring improved productivity, effectiveness, and efficiency of maintenance and support organizations.

(20) Determining the adaptability of common equipment to multiple requirements and applications.

(21) Evaluating lower life cycle cost alternatives in system configuration.

(22) Ensuring improved specifications, standards, and testing techniques.

(23) Managing the full-scale development of mature, potential high payoff, laboratory R&M Technologies for timely insertion into developing or fielded systems and equipment.

(24) Enhancing Air Force awareness of combat support research and development activities; coordinating Air Force combat support requirements with technology base capabilities; and administering combat support research and development activities.

(25) Managing Air Force logistics participation in the independent research and development program.

(26) Stimulating Air Force transition/transfusion of technologies and information (industry and Air Force wide) by accomplishing the Air Force Logistics Technology Transfusion Program.

(27) Promoting achievement of Air Force R&M 2000 goals throughout the Air Force and defense industry.

(28) Establishing or participating in the establishment of AFLC policy, procedures, and techniques for execution of the elements of Integrated Logistics Support and associated disciplines and specialities.

2. Relationships. As a Division of AFLC, the ALD is authorized direct communication with other governmental agencies as necessary to accomplish assigned responsibilities. Communications through command channels are required for matters of policy, resources, or adjustments in assigned responsibilities for the ALD.

3. Organization. The ALD is organized in such a manner that each organizational entity has a consistent and clear relationship to the Commander and to other elements of the organization. The mission and functions of each ALD activity are contained in attachments to this regulation.

OFFICIAL

ALFRED G. HANSEN, General, USAF
Commander

JAMES E. GIBBONS, Maj, USAF
Director of Administration

- 10 Attachments
1. Command Section and Staff Offices
 2. Resources Management Office (RO)
 3. Deputy for Engineering and Reliability (ER)
 4. Deputy for Integrated Logistics (LS)

Supersedes AFLCR 23-17,
29 Jan 86
OPR: AFLC/XPMO

Approved By:
Editor:

Distribution: F; X

5. Assistant to the
Commander for Quality
(QP)
6. Dets 1 thru 5
(OB/OE/OS/OM/OA)
7. Office of Product
Performance Agreement (PP)
8. Deputy for Avionics
Control (AX)
9. Air Force Office of
Logistics Technology
Applications (AFOLTA) (LT)
10. Organization Chart

SUMMARY OF CHANGES: This regulation updates the functional
statements relative to the reorganizations of the ALD.

Appendix C: Roadmap to Total Quality Management

ROADMAP TO TOTAL QUALITY MANAGEMENT: A THREE PHASE APPROACH

The AFIT/LS Quality Working Group

I. The Assessment and Planning Phase

Milestone 0--Readiness Review

Purpose: Initial assessment of the readiness of the client organization to undertake a comprehensive Total Quality Management process.

Outcome: Clarification of the scope of the TQM process in the client organization. Identification of key areas for change. Negotiation of AFIT-client responsibilities and expectations

Delivery Mode: AFIT team on-site with diagnostic instruments and checklists. Debriefing and planning with senior management.

Milestone 1--Executive Education

Purpose: Introduction of the philosophy and tools of the TQM process to the senior management group.

Outcome: Comprehensive understanding of the role of senior management in directing a TQM effort. Initiation of improvement efforts in selected senior management processes.

Delivery Mode: AFIT on-site assistance, and either QMT 082 or Executive Overview presentation by AFIT team.

Milestone 2--Strategic Planning

Purpose: Development of a comprehensive plan to integrate TQM into every aspect of the client organization.

Outcome: Interlocking strategic and sub-unit operational plans to implement and promote TQM. Formation of TQM steering committees, process action teams (PATs), and corrective action teams (CATs).

Delivery Mode: Consulting mode--AFIT team, senior management, and selected support personnel planning at an off-site meeting location.

Jennings, AFIT/LSR, 52254, 29 Jan 89

II. The Process Management and Breakthrough Phase

Milestone 3--Process Ownership and Definition

Purpose and Outcome: Selection and training of individual "owners" for critical organizational processes, along with the associated process action teams. These owners, in concert with process action teams, have the responsibility and authority to improve cross-functional processes. In defining processes, the process owner and the PAT identify the following: internal suppliers and customers, measurable indicators of quality and service to internal customers, and critical process variance points. This definition forms the framework for the further phases of process management.

Delivery Mode: AFIT Process Management Training.

Milestone 4--Process Simplification, Measurement, and Control

Purpose and Outcomes: Training of the PATs in techniques to simplify, measure and control their respective process in an on-going manner. Outcomes include process streamlining, measurement systems development, and formal control procedures.

Delivery Mode: AFIT Process Management Training and completion of QMT 084.

Milestone 5--Process Improvement

Purpose and Outcome: Training of the PATs and relevant support groups in techniques to improve their processes in an on-going manner.

Delivery Mode: AFIT Process Management Training and completion of QMT 084.

Milestone 6--Breakthrough Projects

Purpose and Outcomes: Corrective Action Teams (CATs) trained in advanced and specialized problem solving techniques. The CATs are directed by the steering committee toward solving selected high payoff quality, service and performance problems.

Delivery Mode: Under development at this time.

Jennings AFIT/LSR, 52254, 29 Jan 89

III. The Institutionalization Phase

Milestone 7--Information and Measurement Systems Design

Purpose and Outcomes: Development or modification of information and measurement systems to reinforce and support on-going TQM. Systems are designed to deliver needed information directly to those closest to the points of process control. Systems are intentionally designed to facilitate the management, by teams, of relatively complete cross-functional processes. Target systems include: Management Information Systems, Decision Support Systems, Inventory Control Systems, Expert Management Systems, and Variance Measurement and Reporting Systems.

Delivery Mode: To be developed.

Milestone 3--Job and Task Design

Purpose and Outcome: Realignment and restructuring of the organization's basic job and task design to form relatively permanent teams to manage complete processes. This will require a graduated change from strictly functional organizational structures to process related structures. The result will be reduced functional barriers to management and increased work process capability.

Delivery Mode: AFIT Consulting Team on-site.

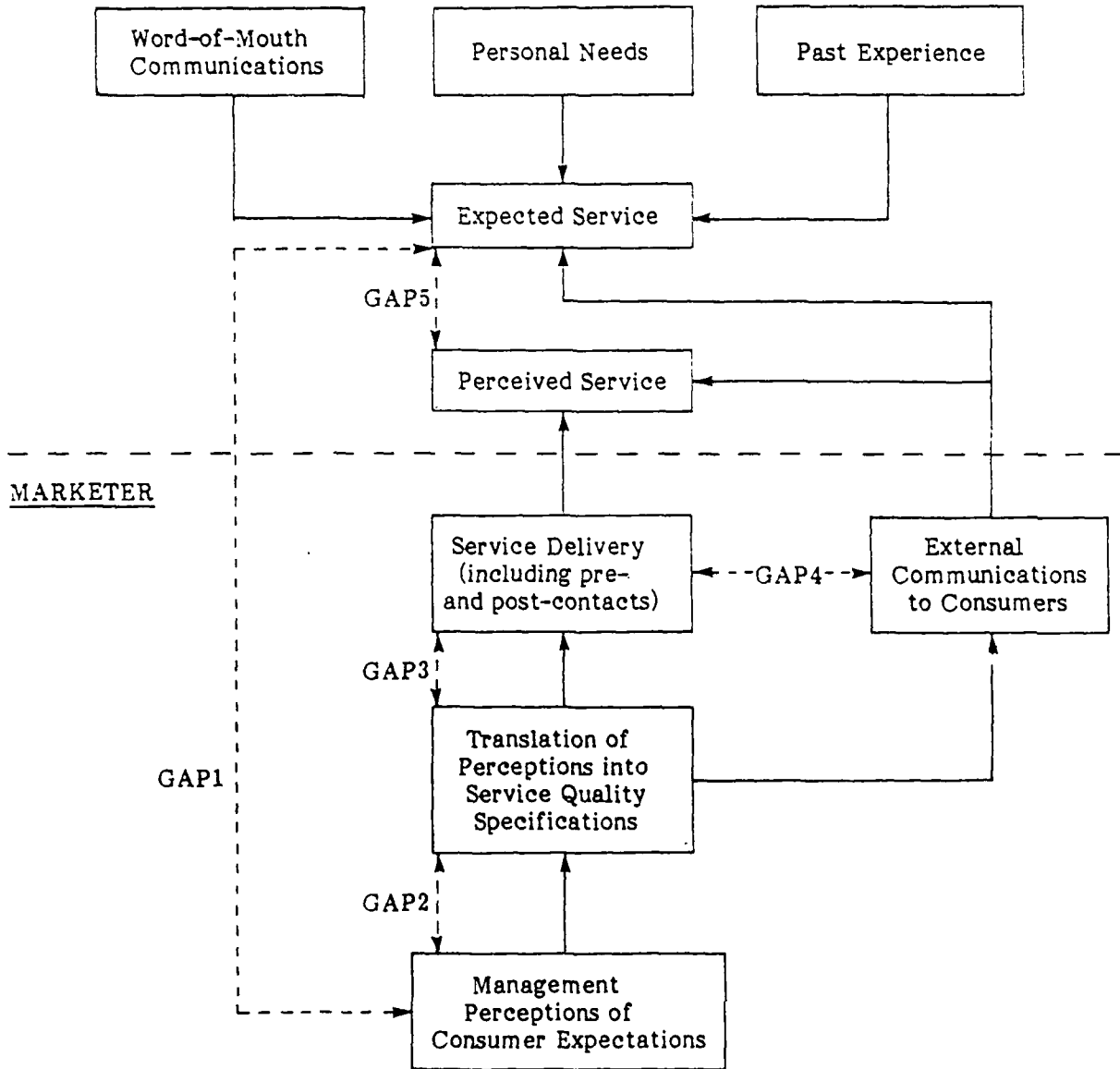
Milestone 9--TQM Evaluation

Purpose and Outcome: Comprehensive evaluation of the attitudes, actions, systems and supports critical to the on-going success of Total Quality Management. Results of the evaluation are fed back to the client organization for action planning.

Delivery Mode: AFIT consulting team using various organizational evaluation techniques.

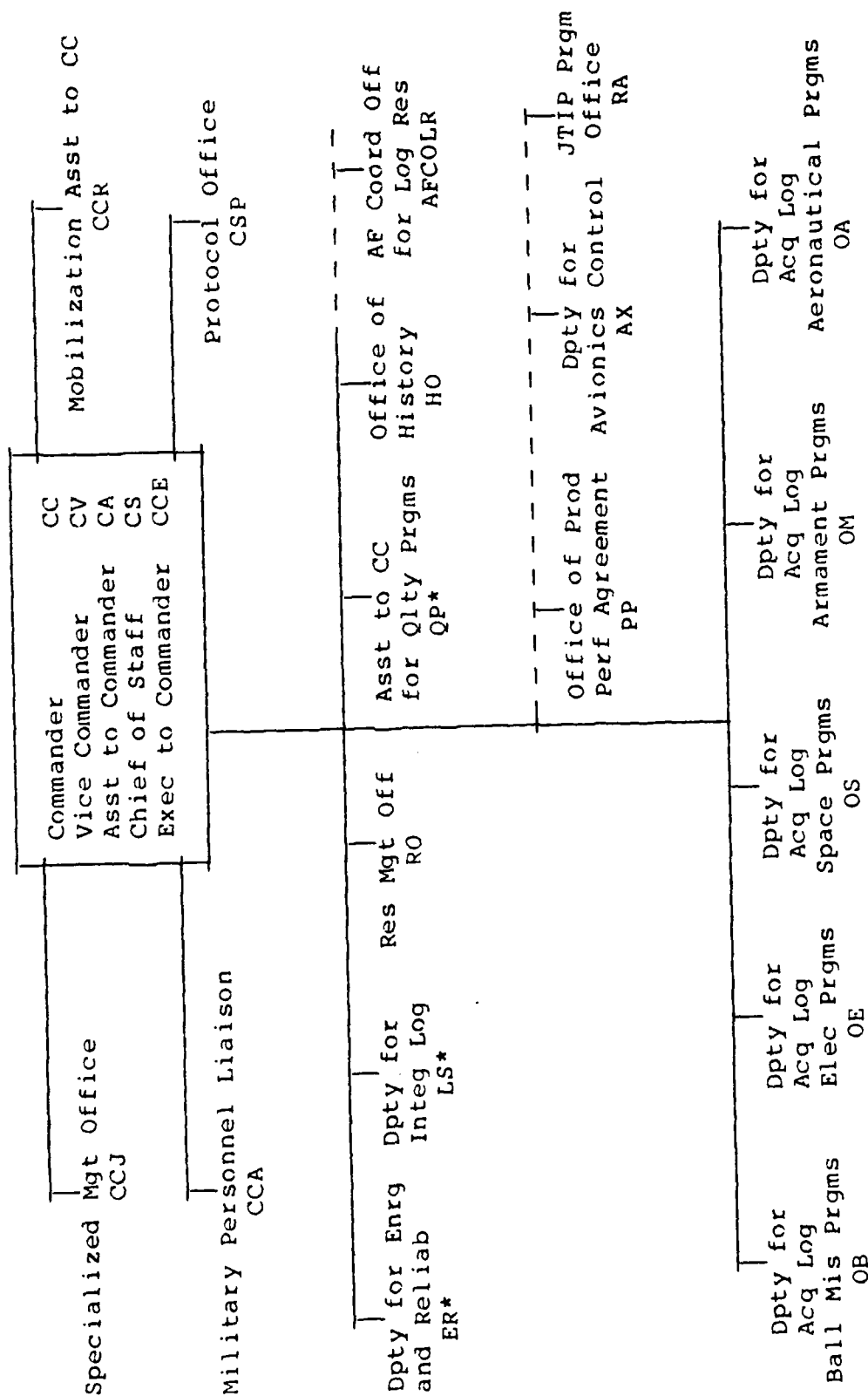
Appendix D: Conceptual Model of Service Quality

CONSUMER



(22:8)

Appendix E: AFALC Organization Configuration



- - - Co-managed by AFALC and AFSC Product Division

* Dual-Hatted

(Source: AFALCVA 23-1, 1 Sep 88)

Appendix F: Total Quality Management Strategic Planning
Interview Guide

Interviewer _____ Date _____ Time _____

Organization _____

Interviewee _____ Position _____

1. Mission:

- (a) What is the primary mission of your organization?
- (b) What are the primary mission elements, functions, or tasks for which you are responsible (5 to 7)?

2. Critical Success Factors:

- (a) What are the critical success factors associated with these functions? or
- (b) What things must go well in order for you to achieve your missions? or
- (c) What characteristics must your "products" have to be judged successful?

3. Key Decisions:

- (a) What are the key decision forums in which you participate or for which you are primarily responsible?
- (b) What are those key resource allocation or go/no go decisions for which you or your subordinates are responsible?

4. Major Customers: External (outside your organizational boundaries) and Internal (inside your organizational boundaries)

- (a) Who are your major organizational customers?
- (b) What are their expectations?

5. Barriers: What are the primary barriers, obstacles, constraints, or other limiting factors which tend to oppose achieving your organizational objectives successfully?

6. TQM: It has been directed that Total Quality Management will be implemented throughout the DOD.

- (a) How do you see that affecting the way your organization does business?
- (b) How will TQM work in your organization?
- (c) Do you anticipate TQM will cause major changes in your way of doing business?

Appendix G: Responses to Key Interview Questions

Exhibit 1: MISSION ELEMENTS (PROCESSES) - QUESTION #1

Train, select, and assign people

Oversee matrix personnel

Care and feeding of people

Develop new acquisition logistics tools/techniques

Insert tools in acquisition process

Conduct logistics reviews

Develop Integrated Logistics Support (ILS) policy

Communication between line/staff/labs

Support line personnel (staff)

Transfer technology

Communication between AFLC/AFSC

Manage Independent Research and Development (IR&D) process

Advocacy of logistics/supportability

Conduct Logistics Support Analysis (LSA)

Develop proxy, nearer term indicators of success of LSA process "measure of success"/productivity

Develop and monitor data bases

Plan/execute/track (ILS)

Monitor all support decisions, milestone, documentation

Select and certify suppliers

Develop specification

Funding of programs (AFLC)

Prioritize programs for support (AFLC)

Standardize equipment and software

Develop acquisition strategy

Exhibit 2: CRITICAL SUCCESS FACTORS - QUESTION #2

Competent personnel in Deputy Program Manager for Logisitcs
(DPML)/Integrated Logistics Support Manager (ILSM) offices

Best people at critical decision points

Quality support for line personnel

Excellent logistic tools

High value added (recognized, visible)

LSA guided design

Support purchase (timing/completeness/delivery)

Schedule compliance

Lowest life cycle cost (LCC) that meets support requirements

Support articulated in contract document

Customer satisfaction (which customer)

Knowledge of operational requirements

Exhibit 3: BARRIERS - QUESTION # 5

Send wrong people to meetings (decision makers versus info gatherers)

Personnel rotation

AFALC personnel system clumsy to use

Building a "program office team"

Experience level of people, all learn first 3 years

Lack of clarity (roles) for matrixed people

Frequent structure changes

Not prepared for SPO environment

No "clear staff" mission accepted by line organization

No "real" top level support

Accessibililty of Commander limited

Over regulation and standardization

Who really reviews our product?

No "clear" owners of processes--DPML/ILSM own it all?

Hard to demonstrate our value in dollars

LSA data base not used after transfer

Where (what levels) we are placed in AFSC and other organizations

Defining exactly what "logistics" is

Cooperation of SPO/logistics is second team--"we ... they" attitude prevails

Not well netted in AFSC and other user computer systems

AFLC/AFSC dual hat conflicts

AFLC/AFSC regulation conflicts

Exhibit 3: BARRIERS - QUESTION # 5 (Cont'd)

Two Management Information Systems (MIS)

Funding flexibility

Short term perspective

Up-front funding to develop standards

Our customer (mission) has changed and we do not recognize it

Quantification of customer needs

AFCOLR ties to Air Staff (both advantages and obstacles)

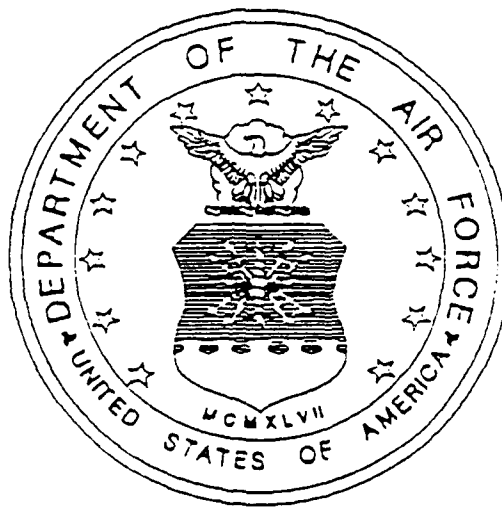
Individual resistance to change

We work symptoms and not processes

AFALC Quality Planning Session

1 and 2 March, 1989

Ken Jennings, PhD
Hal Rumsey, PhD

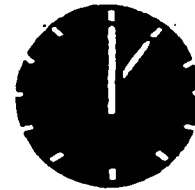


Air Force Institute of Technology

AFALC QUALITY PLANNING SESSION

Day One Agenda

Rules of Engagement



Critical Success Factors/Obstacles

Feedback from Interviews

Prioritization

Force Field Analysis

Action Planning--Breakthrough Goals

Process Management

Facilitator Overview

Tie Key Processes into Critical Success Factors

Tie Key Processes to Customers

Decisions on Process Management Structure

Decisions on Process Measurement System

Action Planning

Decision Management

Facilitator Overview

Natural Work Team Exercise

Action Planning

Action Item Review

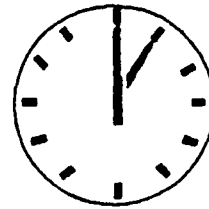
Group Process Review

Mission Statement Homework

AFALC QUALITY PLANNING SESSION

Day Two Agenda

Mission Statement Revision



Management of Customer Expectations
Forums for Customer Involvement
Measure Development
Actions to Institutionalize Customer Focus

Open Systems Planning Exercise
Natural Work Team Preparation
Group Exercise (Charting)
Action Planning

Session Review and Critique
Planning The Next Meeting

AFALC QUALITY PLANNING SESSION

Process Management

CRITICAL SUCCESS FACTORS ★

CSF CSF CSF CSF CSF

PROCESS	★	★	★		★
PROCESS		★	★	★	★
PROCESS	★	★		★	
PROCESS			★		★
PROCESS	★		★		★
PROCESS		★			★
PROCESS	★	★	★	★	★

Appendix I: Critical Success Factor Exercise Data

PROCESSES CONTRIBUTING TO CRITICAL SUCCESS FACTORS

EXCELLENT LOGISTICS PROCEDURES TOOLS AND TRAINING (ELP)

1. DEVELOP ILS POLICIES/PROCEDURES
2. DEVELOP CONTRACT PROCEDURES
3. COMMUNICATE BETWEEN ALL LEVELS
4. TRAIN PEOPLE
5. DEVELOP TOOLS AND TECHNIQUES

COMPETENT PERSONNEL AT ALL LEVELS (CP)

1. SELECTION PROCESS
2. PERSONNEL MANAGEMENT
3. APPRAISAL PROCESS
4. TRAINING
5. CAREER MANAGEMENT

RECOGNIZED HIGH VALUE ADDED RESULTING IN CUSTOMER SATISFACTION (HVA)

1. DEVELOP ACQUISITION STRATEGIES
2. DEVELOP SPECIFICATIONS
3. MONITOR ALL SUPPORT DECISIONS, MILESTONE DOCUMENTATION
4. PLAN/EXECUTE ILS
5. CONDUCT LOGISTICS ANALYSIS
6. COMMUNICATION
 - LOGISTICS REVIEWS
 - ADVOCACY OF LOGISTIC SUPPORT ISSUES
7. PERSONNEL MANAGEMENT

INTERACTIVE KNOWLEDGE OF CUSTOMERS' NEEDS (CUS)

1. FOLLOW REQUIREMENTS PROCESS
2. DEVELOP RFP/SPECIFICATION
3. CONDUCT LOGISTICS REVIEWS
4. ADVOCATE LOGISTICS/SUPPORT
5. CONDUCT LSA

SUPPORT ARTICULATED IN CONTRACT (CONT)

1. DEVELOP ACQUISITION STRATEGIES
2. DEVELOP SPECIFICATIONS/RFP
3. DEVELOP NEW ACQUISITION TOOLS/TECHNOLOGY
4. ENHANCE SUPPLY SUPPORT PROCESS
5. CONDUCT LSA

Appendix J: Participant Feedback on Quality Planning Session

WHAT I GOT OUT OF THE SESSION ...

- When smart people get together and express themselves ... ideas (good) are generated.
- The TQM in process is not new ... just makes name for good management.
- We have specific CSFs in AFALC and processes that need to be addressed.
- Defining the problem is key to good management.
- Don't lose sight of mission.
- Interesting view of TQ process. Not yet mature. Not to standard yet of Cumberland Group (I've been to both). Both have similar problem of confusion (mainly us). We don't yet believe you. I'm not sure my folks will believe you.
- Some real confusion/confused thoughts about what TQM is, how to do it, where AFALC is really going with it.
- Appreciation of the difficulty of "managing" or leading quality into our organization.
- Feeling that we have been played with; put in a box to grope around.
- Clear statement of mission.
- Some critical factors that contribute to the success of the mission.
- Processes that enhance accomplishment of the factors.
- Major processes that need further work.
- Will be determined by future course of action. If we never meet again, it was a waste of time.
- Expanded awareness of how to do TQM in a staff environment.
- Exposure/understanding of the process management concept and some understanding of a few "staff" considerations.

- Opportunity to validate many ideas against others' perceptions. Chance to see the IBM approach to TQM implemented.
- A feeling for the organizational needs of AFALC and DETs. A better understanding of the diversity of the organization. Some broad guidelines to further definitize and apply in the implementation of TQM at my DET.
- An understanding of the need for identification of areas to be improved and what the rest of organization thought of the current methods we are using.
- Sensitized to the important processes with the AFALC arena and alignment opportunities with organizational objectives.
- Valuable exchange. Reinforced need to work the Acq Log business with more emphasis on breaking down barriers. But, do feel we missed some key areas (what happened to "manage ILS?"). We focused on the process as of upper management and some of the genetics - but didn't get down to the "day-to-day" ILS effort.
- An approach to working critical issues/problems and processes on a limited basis. Much more study of work is needed.
- Better understanding of needs of other AFALC activities.
- A focus on what's important to all of us.
- A working knowledge of how important identifying key processes and CSFs are to the smooth functioning of an organization. The smooth functioning requires everyone understanding the key processes and CSFs. With this understanding comes areas for improvement.
- Satisfaction of seeing the organization start to work together more effectively as a "quality" team with common goals. Better understanding of commander/deputy problems frustrations, etc.
- Awareness of critical issues and a construct with which to address problems and direct process - relate solutions.
- Better understanding of process analysis.

WHAT I INTEND TO DO NEXT IN MY ORGANIZATION...

- Apply concepts to my organization.
- Replication of the procedure among problems organic to our processes, with the objective of: (1) developing solutions, (2) standardizing solution approaches and development by applying same procedure for evaluation.
- More of the same type efforts on a continuing basis.
- To implement some of the ideas within our deputation - particularly in the area of personnel/training issues.
- Meet with my people to focus on our internal processes and those that influence the important AFALC processes.
- Work within the AFALC to better define and communicate the issues. Work with my people to look into more detail of quality and how we can improve.
- Try to run a similar exercise back home - but focus in more in the "trenches" activities/processes and CSFs.
- Press on with the ASD TQM program and align where feasible with AFALC.
- Relate this information to those processes that I can influence within my control. I have identified areas which need more communication of current processes and factors.
- A commitment to continue to institutionalize TQM at my DET.
- Continue to implement a quality program at our detachment using applicable portions of this approach.
- That what is directed by our command section.
- Think about meaningful ways to implement, in systematic bite-sized chunks for optimum results.
- I'll turn the material over to my quality team and accept their thoughts about incorporating it into our on-going process.
- Get middle management involved to determine (a) critical success factors, (b) processes that should be worked on or improved.

- Establish an action plan.
- Read and study the literature provided. Review again what we are doing and how well we're doing it. Discuss what changes, training, and education we need. Figure out how to make it useful to all our people.
- Nothing; as our joint activity is heavily committed to working through the ASD process.
- Tackle the mission critical issues using what I learned 1/2 Mar and a lot of stuff I was given education in the past.

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Abstract

The purpose of this study was to describe and assess the design of Air Force Acquisition Logistics Center's (AFALC) strategic plan for implementing Total Quality Management (TQM). Documentation of such implementation methods can provide useful crossfeed to other service organizations attempting similar efforts. The following research questions were addressed to present the case in a useful context for interpretation: (1) What is TQM and how will it be implemented in AFALC; (2) How can the quality of service organizations be improved and what techniques may be useful for this purpose; (3) How does the environment at AFALC differ from most Air Force organizations implementing TQM and what obstacles must it overcome; (4) How important is strategic planning to the success of implementing programs and what key elements are critical to effective strategic planning; and (5) How can this case study benefit other organizations implementing TQM or another quality program.

— TQMC — 4/1

The study found that TQM is a strategy for achieving continuous improvement in all organizations of the Department of Defense. AFALC will implement TQM in accordance with Air Force Logistics Command's (AFLC) quality agenda, through process management techniques. This method has been effective for improvement of services, which is AFALC's intangible "product." The uniqueness of the organization, in terms of structure and mission, causes several obstacles to implementing quality. Although the strategic planning efforts observed are critical to sustaining quality, commitment to follow-through was deemed the most important element. AFALC must continue to apply, revise and improve their plan for total quality. The primary benefit of this study to other organizations is the flexible "Roadmap to TQM." Although no one best way exists for achieving quality, the fundamentals of this approach have proven successful for private industry. These fundamentals include management commitment and focus on quality; process ownership, measurement, and improvement; and organization follow-through, rewards, and evaluations.

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